

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P560779

Luminaire Tested: FSR-12-4-LD4-1HI-35-UNV-81-94-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P560779
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1HI-35-UNV-81-94-EDD
Description: 1X4 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3879.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

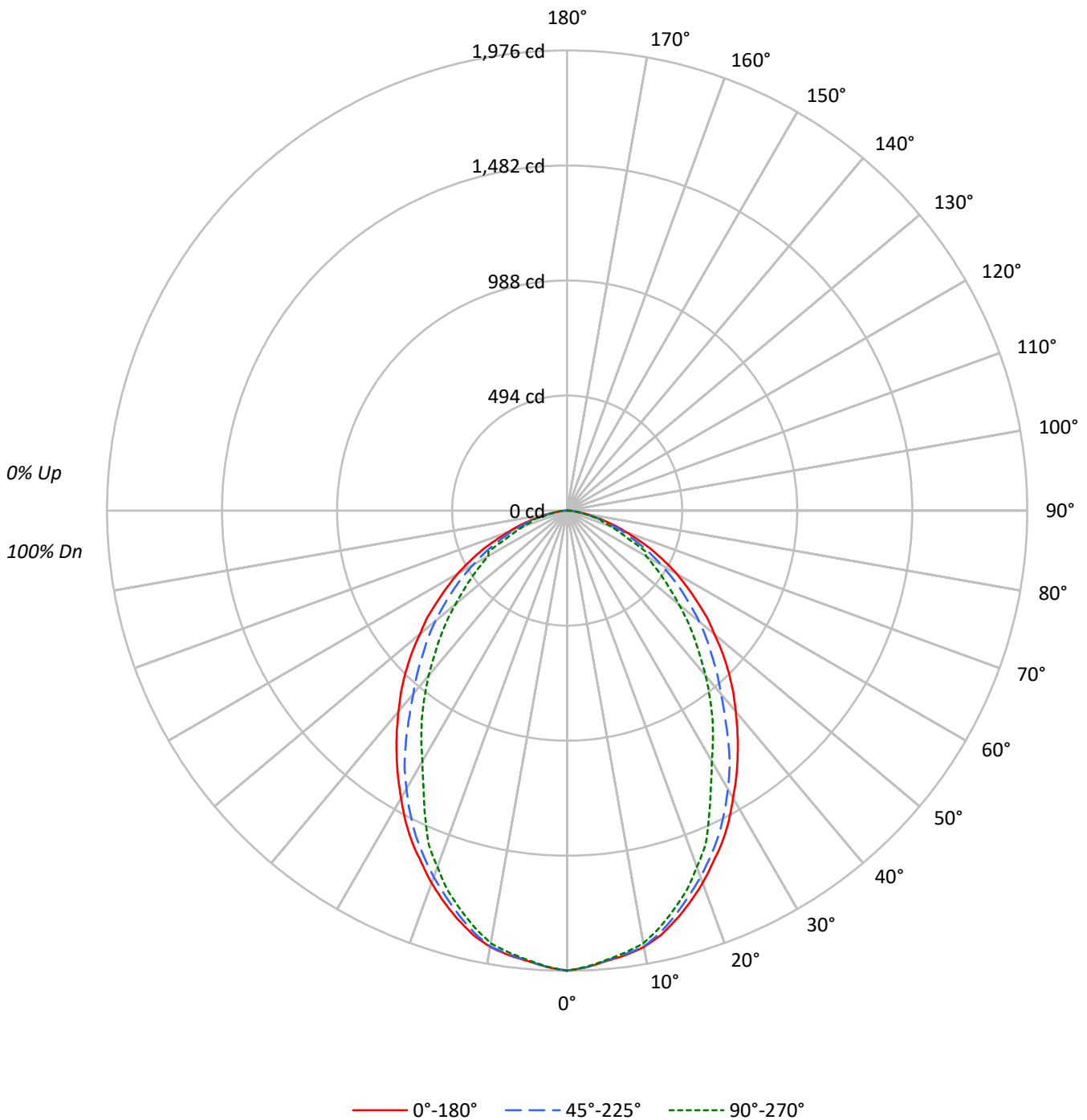
Input Watts (W): 43.2
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100	100	100	100	100	100	100		
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87	87	87	87		
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75	75	75	75		
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65	65	65	65		
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56	56	56	56		
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50	50	50	50		
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44	44	44	44		
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40	40	40	40		
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36	36	36	36		
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33	33	33	33		
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30	30	30	30		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5317	5317	5317
5°	5245	5239	5233
10°	5199	5193	5156
15°	5059	5008	4938
20°	4873	4795	4664
25°	4673	4571	4287
30°	4429	4287	3861
35°	4195	3962	3572
40°	3956	3611	3250
45°	3730	3338	2938
50°	3452	3098	2620
55°	3194	2808	2347
60°	2926	2508	2102
65°	2574	2196	1862
70°	2120	1923	1581
75°	1686	1472	1544
80°	1133	1062	992
85°	704	846	988

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 3730 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.9	4.7
10°-20°	504.8	13.0
20°-30°	698.8	18.0
30°-40°	745.2	19.2
40°-50°	679.8	17.5
50°-60°	532.6	13.7
60°-70°	347.1	8.9
70°-80°	153.8	4.0
80°-90°	33.0	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1387.6	35.8
0°-40°	2132.7	55.0
0°-60°	3345.1	86.2
0°-90°	3879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3879.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1976	1976	1976	1976	1976	
5°	1942	1939	1939	1937	1937	184
15°	1816	1816	1798	1780	1773	511
25°	1574	1565	1540	1485	1444	723
35°	1277	1268	1206	1115	1087	798
45°	980	959	877	804	772	755
55°	681	660	598	528	500	611
65°	404	382	345	352	292	398
75°	162	151	142	135	148	174
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1975.9	1975.9	1975.9	1975.9	1975.9
2.5°	1962.2	1962.2	1962.2	1959.9	1959.9
5°	1941.6	1939.4	1939.4	1937.1	1937.1
7.5°	1925.7	1923.4	1921.1	1918.8	1914.2
10°	1902.8	1902.8	1900.5	1889.1	1886.8
12.5°	1866.3	1864.0	1854.8	1838.9	1834.3
15°	1816.0	1816.0	1797.7	1779.5	1772.6
17.5°	1761.2	1758.9	1736.1	1717.8	1708.6
20°	1701.8	1697.2	1674.4	1644.7	1628.7
22.5°	1635.6	1635.6	1608.1	1569.3	1553.3
25°	1573.9	1564.7	1539.6	1484.8	1443.7
27.5°	1503.1	1489.4	1461.9	1384.3	1336.3
30°	1425.4	1418.5	1379.7	1279.2	1242.7
32.5°	1352.3	1340.9	1299.8	1194.7	1165.0
35°	1276.9	1267.8	1206.1	1114.7	1087.3
37.5°	1201.5	1190.1	1112.4	1039.4	1005.1
40°	1126.2	1112.4	1027.9	961.7	925.1
42.5°	1055.3	1037.1	954.8	884.0	842.9
45°	980.0	959.4	877.2	804.1	772.1
47.5°	904.6	886.3	810.9	735.5	699.0
50°	824.6	808.6	740.1	664.7	625.9
52.5°	758.4	733.3	667.0	591.6	559.7
55°	680.7	660.2	598.5	527.7	500.3
57.5°	609.9	589.3	532.2	466.0	443.2
60°	543.7	514.0	466.0	408.9	390.6
62.5°	470.6	447.7	406.6	358.6	381.5
65°	404.3	381.5	344.9	351.8	292.4
67.5°	331.2	319.8	287.8	255.8	246.7
70°	269.5	255.8	244.4	210.2	201.0
72.5°	214.7	201.0	185.0	166.8	159.9
75°	162.2	150.8	141.6	134.8	148.5
77.5°	111.9	107.4	100.5	93.7	91.4
80°	73.1	70.8	68.5	66.2	64.0
82.5°	43.4	43.4	43.4	43.4	43.4
85°	22.8	25.1	27.4	29.7	32.0
87.5°	13.7	13.7	16.0	18.3	20.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)